

Amendments to the Claims

1. (Currently Amended) A transparent/translucent panel unit for varying the level of light passing therethrough comprising:

a pair of spaced-apart transparent/translucent panels; and
a plurality of light-controlling members positioned between the panels and mounted for rotation about their longitudinal axes,
the light-controlling members each having at least one substantially light-blocking surface ~~and at least one engagement surface in contact with an engagement surface of an adjacent light-controlling member,~~
whereby the plurality of light-controlling members may be rotated by ~~imparting rotary motion to at least one of the light-controlling members and transmitting the rotary motion across the contacting engagement surfaces of adjacent light-controlling members to rotate the light-blocking surfaces and to~~ vary the level of light passing through the panel unit; and
at least one pair of opposed elongated carriage members having a series of scalloped surfaces, the carriage members being positioned between the panels to define annular openings with individual light-controlling members supported for rotational movement within the annular openings.

2. (Original) The transparent/translucent panel unit of claim 1 in which the spaced-apart transparent/translucent panels are generally parallel to each other.

3. (Original) The transparent/translucent panel unit of claim 1 in which the panels are made from a material chosen from the group consisting of plastics, fiberglass, perforated metal fabric, and glass.

4. (Original) The transparent/translucent panel unit of claim 1 in which the panels are chosen from the group consisting of honeycomb cross-section polycarbonate translucent panels and rectangular cross-section polycarbonate translucent panels.

5. (Original) The transparent/translucent panel unit of claim 1 in which the panels are elongated and the light-controlling members and their light-blocking surfaces generally correspond in length to the length of the panels.

6. (Original) The transparent/translucent panel unit of claim 5 in which the panels are from about 4 feet to about 40 feet in length.

7. (Original) The transparent/translucent panel unit of claim 1 in which the transparent/ translucent panels are tinted.

8. (Original) The transparent/translucent panel unit of claim 1 in which the light-controlling members are positioned in abutting relationship.

9. (Currently Amended) The transparent/translucent panel unit of claim 1 in which the light controlling members include contacting engagement surfaces and the engagement surfaces of the light-controlling members are circular.

10. (Original) The transparent/translucent panel unit of claim 9 in which the circular engagement surfaces extend at least about 180° about the circumference of the light-controlling members.

11. (Original) The transparent/translucent panel unit of claim 9 in which the circular engagement surfaces extend 360° about the circumference of the light-controlling members.

12. (Original) The transparent/translucent panel unit of claim 1 in which the light-controlling members are elongated tubes having an outer circular surface extending at least about 180°.

13. (Original) The transparent/translucent panel unit of claim 12 in which a plurality of rings are spaced along the outer circular surface of the tubes generally perpendicularly to the longitudinal axes of the tubes to achieve rotation of the light-controlling member through 360°.

14. (Original) The transparent/translucent panel unit of claim 1 in which the light-controlling members are elongated tubes having an outer circular rotational surface extending at least about 360°.

15. (Original) The transparent/translucent panel unit of claim 1 in which the light-controlling members are spaced from each other while the engagement surfaces remain in contact.

16. (Original) The transparent/translucent panel unit of claim 12 in which the light-blocking members are generally planar and positioned across the diameter of the tube.

17. (Original) The transparent/translucent panel unit of claim 14 in which the light-blocking members are generally planar and positioned across the diameter of the tube.

18. (Original) The transparent/translucent panel unit of claim 16 in which the tube and light-blocking member are co-extruded.

19. (Original) The transparent/translucent panel unit of claim 17 in which the tube and light-blocking member are co-extruded.

20. (Original) The transparent/translucent panel unit of claim 1 in which the light-controlling members comprise a generally planar light-blocking surface supported within a plurality of rings spaced longitudinally along the light controlling member to achieve rotation of the light-controlling member through 360°.

21. (Original) The transparent/translucent panel unit of claim 1 in which the light-controlling members are tubular and include longitudinal sills projecting radially from the outer surface of the tubes.

22. (Original) The transparent/translucent panel unit of claim 21 in which the sills are light-blocking.

23. (Original) The transparent/translucent panel unit of claim 22 in which adjacent light-controlling members are positioned so that the sills at least partially abut as the light-controlling members rotate.

24. (Original) The transparent/translucent panel unit of claim 1 in which the light-controlling members include a first tube with a hemispherical cross-section and an opaque surface across the diameter of the tube and a second tube with a hemispherical cross-section attached across the diameter of the first tube to provide a 360° tubular outer circular rotation surface.

25. (Original) The transparent/translucent panel unit of claim 1 in which the light-blocking surfaces include photovoltaic solar cells.

26. (Original) The transparent/translucent panel unit of claim 1 in which the light-blocking surfaces are substantially opaque.

27. (Original) The transparent/translucent panel unit of claim 1 in which the light-blocking surfaces are substantially semi-opaque.

28. (Cancelled)

29. (Currently Amended) The transparent/translucent panel unit of claim 1 ~~28~~ including a plurality of carriage members spaced longitudinally along the light-controlling members.

30. (Cancelled)

31. (Currently Amended) The transparent/translucent panel unit of claim 1 ~~28~~ in which the carriage members are made of a low friction material or are coated at the scallops with a slippery coating.

32. (Currently Amended) The transparent/translucent panel unit of claim 1 in which the light controlling members include contacting engagement surfaces and the engagement surfaces comprise bands of a high coefficient of friction material positioned in alignment on adjacent light-controlling members.

33. (Currently Amended) The transparent/translucent panel unit of claim 1 in which the light controlling members include contacting engagement surfaces and the engagement surfaces comprise one or more notched bands positioned in alignment on adjacent light-controlling members.

34. (Original) The transparent/translucent panel unit of claim 1 in which the light-controlling members comprise elongated tubes having a cogwheel cross-section including a series of teeth extending along their length so that light-transmitting members intermesh to transmit motion imparted to one member across a plurality of intermeshed light-controlling members.

35. (Original) The transparent/translucent panel unit of claim 34 in which the light-blocking member is positioned within the cogwheel cross-section between a diametrically opposed pair of teeth.

36. (Original) The transparent/translucent panel unit of claim 1 including a panel of a non-combustible generally light-transmitting material positioned within the panel unit above the light-controlling members.

37. (Original) The transparent/translucent panel unit of claim 1 including an air space between the panels and a light-transmitting fire resistant insulating material disposed within the air space.

38. (Currently Amended) A transparent/translucent panel system for varying the level of light passing therethrough comprising:

a plurality of individually assembled panel units joined to adjacent panel units, the panel units including

a pair of spaced-apart transparent/translucent panels; and

a plurality of light-controlling members positioned in the space between the panels and mounted for rotation about their longitudinal axes,

the light-controlling members each having at least one substantially light-blocking surface and at least one engagement surface ~~in contact with~~ for contacting an engagement surface of an adjacent light-controlling member, ~~member~~, member and

means for rotation ~~whereby the plurality~~ of light-controlling members within each unit ~~the units may be rotated~~ by imparting rotary motion to ~~at least one of the light-controlling members in the unit and transmitting the rotary motion of the one light-controlling member to across the contacting engagement surfaces of adjacent light-controlling members to rotate the light-blocking surfaces and vary the level of light passing through the unit.~~

39. (Currently Amended) A transparent/translucent panel unit for varying the level of light passing therethrough comprising:

a pair of spaced-apart transparent/translucent panels; and

a plurality of elongated tubular light-controlling members positioned between the panels and mounted for rotation about their longitudinal axes,

the light-controlling members each having at least one substantially light-blocking surface, at least one ~~circular~~ engagement surface in contact with an engagement surface of an adjacent light-controlling member, and longitudinal, light-blocking sills projecting radially from the outer surface of the ~~tube~~, tube; and

whereby means for rotation of the plurality of light-controlling members ~~may be rotated~~ by imparting rotary motion to ~~at least one of the light-controlling members and transmitting the rotary motion of the one light-controlling member across the contacting engagement surfaces of adjacent light-controlling members to rotate the light-blocking surfaces and vary the level of light passing through the panel unit.~~

40. (Currently Amended) A transparent/translucent panel unit for varying the level of light passing therethrough comprising:

a pair of spaced-apart transparent/translucent panels; and
a plurality light-controlling members having a least one substantially light-blocking surface, positioned between the panels in which the light-blocking surface is segmented into at least one transparent/translucent portion and at least one opaque portion,
the light controlling members each being mounted for rotation about their longitudinal axes by the application of rotary motion at one end of each light-controlling member.

41. (Original) The transparent/translucent panel unit of claim 40 in which the adjacent light-controlling members are positioned in abutting relationship.

42. (Original) The transparent/translucent panel unit of claim 40 in which the adjacent light-controlling members are tubular and have longitudinal, light-blocking sills projecting radially from the outer surface of the tube.

43. (Original) The transparent/translucent panel unit of claim 3 in which the panel is made from a polycarbonate or acrylic plastic.

44. (Cancelled)

45. (Original) The transparent/translucent panel unit of claim 1 in which the light-blocking surfaces of a plurality of the light-controlling members are segmented to each include at least one transparent/translucent segment and at least one opaque segment.

46. (Currently Amended) A transparent/translucent panel unit for varying the level of light passing therethrough comprising:

a pair of spaced-apart transparent/translucent panels; and
a plurality of light-controlling members having at least one substantially light-blocking surface, positioned between the panels,
the plurality of light-controlling members each being mounted for rotation about their longitudinal axes by the direct or indirect application of rotary motion to a single one of the light-controlling members.

47. (Original) The transparent/translucent panel of claim 46 in which the light-controlling members and means for applying rotary motion thereto are substantially housed between the pair of spaced-apart panels.

48. (New) A transparent/translucent panel unit for varying the level of light passing therethrough comprising:

a pair of spaced-apart transparent/translucent panels;
a plurality of light-controlling members positioned between the panels and mounted for rotation about their longitudinal axes,
the light-controlling members each having at least one substantially light-blocking surface and at least one engagement surface in contact with an engagement surface of an adjacent light-controlling member,
whereby the plurality of light-controlling members may be rotated by imparting rotary motion to at least one of the light-controlling members and transmitting the rotary motion across the contacting engagement surfaces of adjacent light-controlling members to rotate the light-blocking surfaces and vary the level of light passing through the panel unit; and
an elongated carriage member having a series of scalloped surfaces, the carriage member being positioned between the panels and above the light-controlling members with individual light-controlling members received for rotational movement within corresponding scalloped surfaces in the carriage member.

49. (New) A transparent/translucent panel unit for varying the level of light passing therethrough comprising:

a pair of spaced-apart transparent/translucent panels;
a plurality of light-controlling members positioned between the panels and mounted for rotation about their longitudinal axes,
the light-controlling members each having at least one substantially light-blocking surface,
whereby the plurality of light-controlling members may be rotated to vary the level of light passing through the panel unit; and
at least one unopposed elongated carriage member positioned between the panels and above the light-controlling members.

50. (New) The transparent/translucent panel unit of claim 49 in which the unopposed elongated carriage member has a series of scalloped surfaces to define annular openings for individual light-controlling members.